



**BAR CODE MED ADMIN
(BCMA)
GUI Options User Manual**

Version 1.0
August 1999

Department of Veterans Affairs
VISTA Technical Services

TABLE OF CONTENTS

1	OVERVIEW	4
1.1	What is BCMA?.....	4
1.2	Features of BCMA.....	4
1.3	Intranet Documentation.....	4
2	ABOUT THIS MANUAL.....	5
2.1	Special Instructions for the “First Time” Computer User	5
2.2	Special Notations—Documentation Conventions	5
2.3	Using BMCA Without a Mouse	5
3	ACCESSING THE GUI OPTIONS	6
3.1	Signing On to BCMA	6
	If the User is a Nursing Student	7
3.2	Opening a Patient Record	8
3.3	Using the BCMA Virtual Due List.....	11
3.3.1	Using the Menu Bar	11
1.3.1.1	File Option	11
1.3.1.2	Reports Option.....	11
1.3.1.3	Due List Option.....	14
3.3.2	Administering Medications with the VDL	18
1.3.2.1	Reviewing Patient Demographics	18
1.3.2.2	Selecting Administration Start and Stop Times	20
1.3.2.3	Selecting Order Schedule Types.....	20
1.3.2.4	Viewing Allergy Information.....	21
1.3.2.5	Viewing and Sorting Medication Order Information.....	21
1.3.2.6	Viewing an Order as Entered in Inpatient Medications V. 5.0	22
1.3.2.7	Documenting the Medication Administration	23
1.3.2.8	Scanning the Medication Bar Code	24
3.3.3	Using the Special Functions Buttons	24
1.3.3.1	Submitting a Missing Dose Request	24
1.3.3.2	Viewing the Medication Log	24
1.3.3.3	Viewing Medication Administration History	24
4	GLOSSARY	26
4.1	Acronyms	26
4.2	Definitions	26
INDEX	28

TABLE OF EXHIBITS

Exhibit 1: BCMA Desktop Icon	6
Exhibit 2: VISTA Sign-on Screen.....	6
Exhibit 3: Instructor Sign-On Screen.....	7
Exhibit 4: Users Electronic Signature Screen.....	7
Exhibit 5: Initial BCMA Menu Screen.....	8
Exhibit 6: Patient Lookup Window	8
Exhibit 7: Confirm Screen	9
Exhibit 8: BCMA Virtual Due List Screen.....	10
Exhibit 9: Patient Due List Report Request Screen.....	12
Exhibit 10: Med Log Report Request Screen.....	12
Exhibit 11: Med Admin History (MAH) Request Screen	13
Exhibit 12: Missed Medications Report Request Screen.....	13
Exhibit 13: Administration Times Report Request Screen.....	14
Exhibit 14: Add Comment Screen.....	15
Exhibit 15: Mark Medication Order Held.....	16
Exhibit 16: Mark Medication Order Refused	16
Exhibit 17: Missing Dose Request Screen.....	17
Exhibit 18: Missing Dose Submitted Message	17
Exhibit 19: PRN Effectiveness Comments Screen.....	18
Exhibit 20: Patient Inquiry Screen.....	19
Exhibit 21: Start and Stop Time Selection Fields	20
Exhibit 22: Patient Allergy List Window	21
Exhibit 23: Order Display Screen.....	22
Exhibit 24: VDL Right Mouse Button Screen.....	23

1 OVERVIEW

1.1 What is BCMA?

BCMA software is a point-of-care solution for validating the administration of medications. The initial software development and hardware research done at the Eastern Kansas Health Care System, Colmery-O'Neil Division, VISN 15, Heartland Veterans Health Network, is the basis from which the standard product is being built. The existing software functionality, in addition to enhancements identified by a functional workgroup with Nursing and Pharmacy representatives from various Veterans Integrated Services Networks (VISNs), is being replicated with a graphical user interface (GUI) (MS Windows-based) client/server architecture.

Automation of the medication administration process will improve medication administration accuracy and increase the efficiency of documentation. As each patient wristband and medication is scanned by a bar code reader, the software will validate that the medication is ordered, timely, and in the correct dosage—as well as electronically update the medication administration history. BCMA software offers a tool to augment, not replace, the clinical judgment of the medication administrator.

1.2 Features of BCMA

BCMA:

- Increases medication administration accuracy
- Captures drug accountability data
- Increases the information available to Nursing staff at the patient point of care
- Reduces wasted medications
- Improves communication between Nursing and Pharmacy staffs
- Provides a real-time Virtual Due List of orders for medication administration
- Records refused medications
- Records missing doses and sends the requests electronically to the Pharmacy
- Provides a point-of-care data entry/retrieval system
- Provides full compatibility with the existing **VISTA** system
- Identifies PRN entries that require effectiveness comments
- Replaces the manual Medication Administration Record (MAR) with a Medication Administration History (MAH) to provide an automatic record of a patient's medication administration information
- Provides a list of variances that identify early or late medication administrations and late PRN effectiveness entries

1.3 Intranet Documentation

Documentation for this product can now be found on the Intranet at the following address:

<http://www.vista.med.va.gov/bcma>

At this address is information about BCMA, including background, technical information, and important user documentation.



Remember to bookmark this site for future reference.

2 ABOUT THIS MANUAL

This manual contains a description of the functions of the BCMA GUI application. The first section of the manual describes how to access BCMA and open a patient record. The rest of the manual is organized around the Virtual Due List (VDL) and describes the use and functions of each part of the VDL. Screen captures and other visuals are included as further help to the user.

An index and glossary are located at the end of this manual.


2.1 Special Instructions for the “First Time” Computer User

Users who are unfamiliar with BCMA or other Veterans Health Information Systems and Technology Architecture (**VISTA**) software applications are encouraged to study the DHCP Decentralized Hospital Computer Program (DHCP) *User’s Guide to Computing*. This orientation guide is a comprehensive handbook benefiting first-time users of any **VISTA** application. The purpose of the introductory material is to help users become familiar with basic computer terms and the components of a computer. It is reproduced and distributed periodically by the Kernel Development Group. To request a copy, users should contact their local Information Resources Management (IRM) staff.

2.2 Special Notations—Documentation Conventions

Text centered between arrows represents a keyboard key that must be pressed in order for the system to capture a user response or move the cursor to another field. **<Enter>** indicates that the Enter key (or Return key on some keyboards) must be pressed. **<Tab>** indicates that the Tab key must be pressed. Example: Press **<Tab>** to move the cursor to the next field, Type **Y** for Yes or **N** for No, and press **<Enter>**.

 Indicates especially important or helpful information.

 Indicates tips and instructions for using the BCMA GUI options without a mouse.

2.3 Using BMCA Without a Mouse

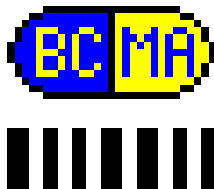
The GUI application of BCMA can be used without a mouse. Many GUI features (including menu bar options, drop-down menu options, and screen fields) can be accessed and used via the keyboard, if desired. Specific instructions for using BCMA without a mouse are included throughout the manual.

3 ACCESSING THE GUI OPTIONS

3.1 Signing On to BCMA

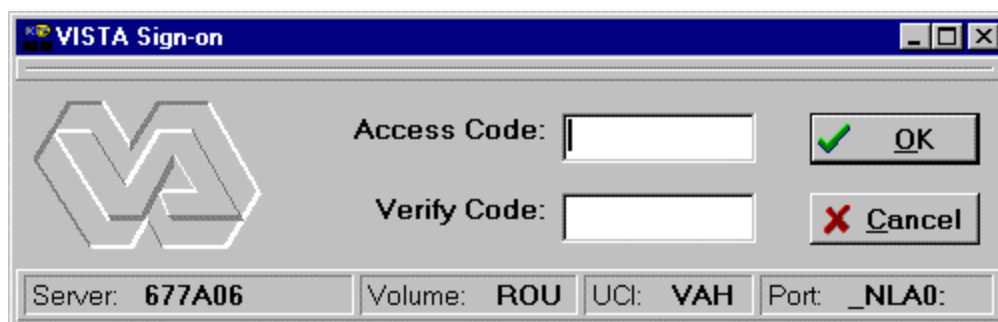
1. Double click on the BCMA icon on your desktop, as shown in Exhibit 1, BCMA Desktop Icon.



EXHIBIT 1: BCMA DESKTOP ICON



2. The **VISTA** Sign-on screen will display, as shown in Exhibit 2, **VISTA** Sign-on Screen.

EXHIBIT 2: VISTA SIGN-ON SCREEN



3. The blinking cursor should appear in the Access Code field. If not, click once in the field to move the cursor.
-  To use the sign-on screen without a mouse, press <Tab> to move the cursor. After entering access and verify codes, press <Tab> to move to the OK button. Press <Enter>.
4. Type your access code, and press <Tab>.
 5. The blinking cursor should appear in the Verify Code field. If not, click once in the field to move the cursor.
 6. Type your verify code.
-  For a short cut, in the Access Code field, type both the Access Code and the Verify Code separated by a semi-colon. Example: accesscode;verifycode.

If the User is a Nursing Student

If the user is a nursing student, the PSB STUDENT security key should be assigned. BCMA will recognize the holder of the PSB STUDENT security key and require the nursing instructor to enter Access and Verify codes on the screen shown in Exhibit 3, Instructor Sign-On Screen. BCMA will recognize only those users holding the PSB INSTRUCTOR security key as nursing instructors.

EXHIBIT 3: INSTRUCTOR SIGN-ON SCREEN

A dialog box titled "Instructor Sign-On" with a close button (X) in the top right corner. It contains two text input fields: "Access Code:" and "Verify Code:". Below the fields are two buttons: "Cancel" and "Sign On".

-
- Click on the **OK** button, or press <Enter>. If the facility's site parameters are set to require an Electronic Signature Code, a screen displays, as shown in Exhibit 4, Users Electronic Signature Screen.

EXHIBIT 4: USERS ELECTRONIC SIGNATURE SCREEN

A dialog box titled "Bar Code Medication Administration" with a close button (X) in the top right corner. It contains a text input field labeled "User's Electronic Signature:". Below the field are two buttons: "OK" (with a checkmark icon) and "Cancel" (with a red X icon).

- Enter an electronic signature code, and click on the **OK** button, or press <Enter>.

☞ This also applies to nursing students. Nursing instructors are not required to enter their electronic signature code when signing on with a nursing student. Facility parameters may be set to require instructors signing on to BCMA without a student to enter their electronic signature code.


The initial BCMA menu screen will display, as shown in Exhibit 5, Initial BCMA Menu Screen.

EXHIBIT 5: INITIAL BCMA MENU SCREEN



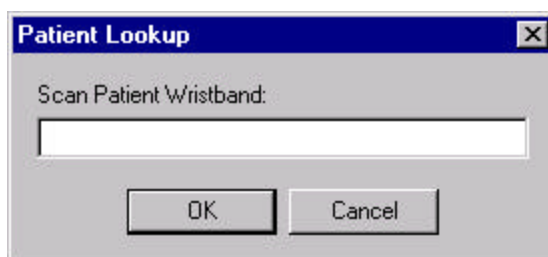
3.2 Opening a Patient Record

1. On the Initial BCMA Menu Screen (shown in Exhibit 4 above), move the cursor to the File option on the menu bar.
2. Click once. A drop-down menu will display the Open Patient Record, Close Patient Record, and Exit options.
3. Highlight Open Patient Record, and click to select the option.

 To open a patient record without using the mouse, Press <Alt> and F at the same time. A drop-down menu will display the Open Patient Record, Close Patient Record, and Exit options. If Open Patient Record is not highlighted, use the keyboard arrow keys to move to that option. Press <Enter>.

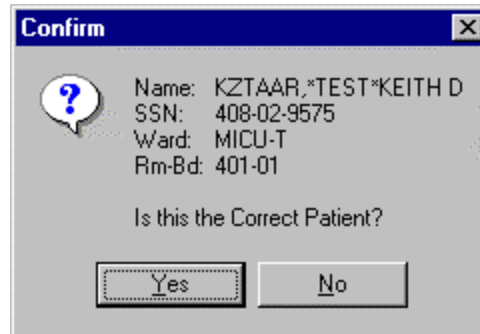
4. The Patient Lookup window will display, as shown in Exhibit 6, Patient Lookup Window.

EXHIBIT 6: PATIENT LOOKUP WINDOW



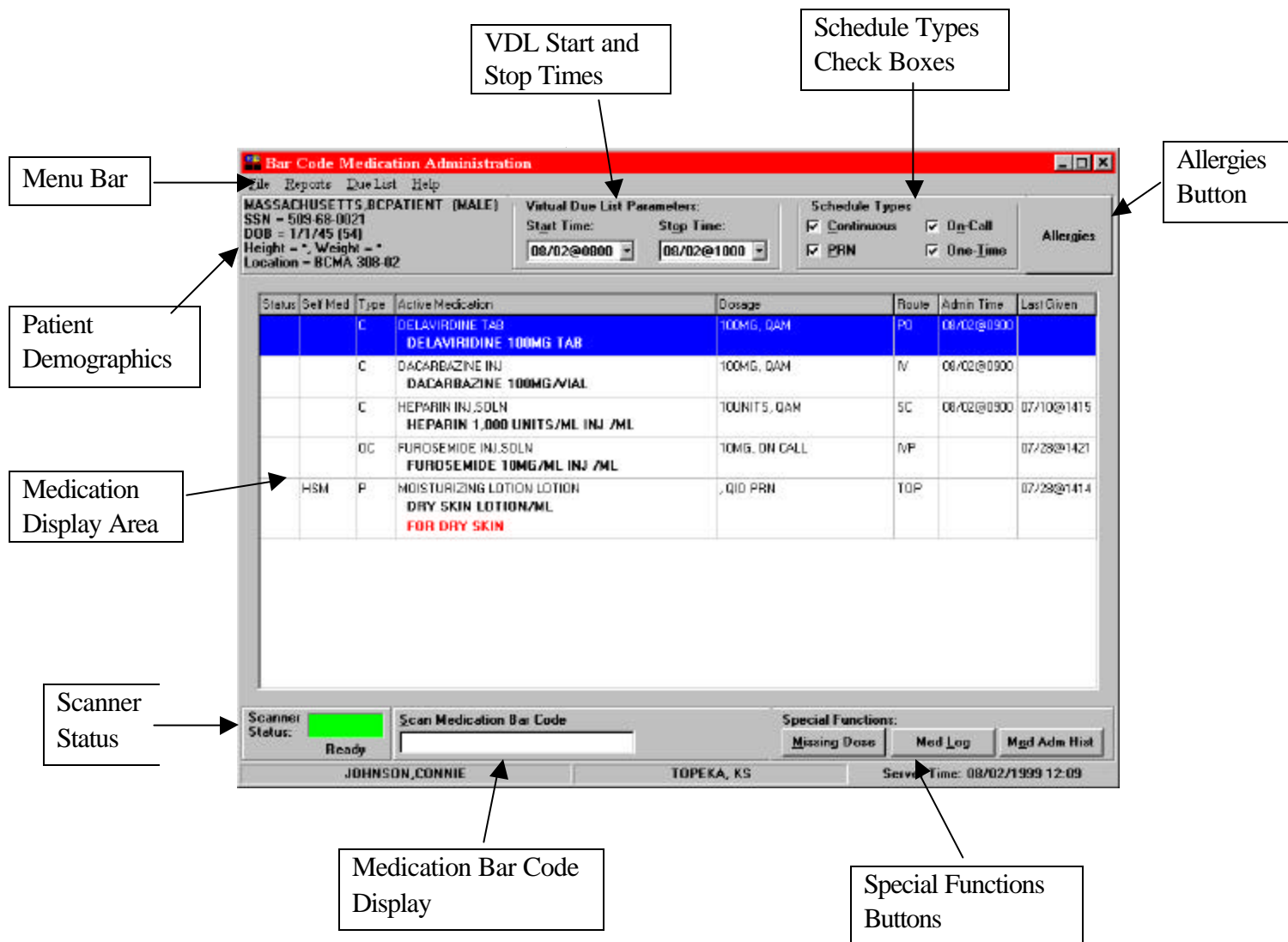
5. Scan the patient's wristband. The patient's Social Security Number (SSN) will now display in the Scan Patient Wristband field.
- ☛ The patient's SSN can also be entered manually. After the SSN is entered, Click on OK, or press **<Enter>**.
6. When the confirmation screen appears, as shown in Exhibit 7, Confirm Screen, check the information against the patient's wristband.

EXHIBIT 7: CONFIRM SCREEN



7. If the information is correct, click on Yes or, press **<Enter>**. The Virtual Due List (VDL) will display, as shown in Exhibit 8, BCMA Virtual Due List Screen.


EXHIBIT 8: BCMA VIRTUAL DUE LIST SCREEN



3.3 Using the BCMA Virtual Due List

The VDL is the functional heart of the BCMA software. The information you need to administer medications is either shown on or is accessible from the VDL.

3.3.1 Using the Menu Bar


 BCMA can be used without a mouse. Many features can be accessed and used via the keyboard, if desired. Each menu option on the Menu Bar shows one underlined letter. To access a menu option, press <Alt> and the underlined letter at the same time. (For example, to access the File menu, press <Alt> and **F** together.) A drop-down menu will display. Use the keyboard arrows to move the cursor to the desired item, and press <Enter>.


1.3.1.1 File Option

Selecting the File menu bar option displays a drop-down menu that allows you to Open a Patient Record, Close a Patient Record, or Exit the BCMA GUI application.

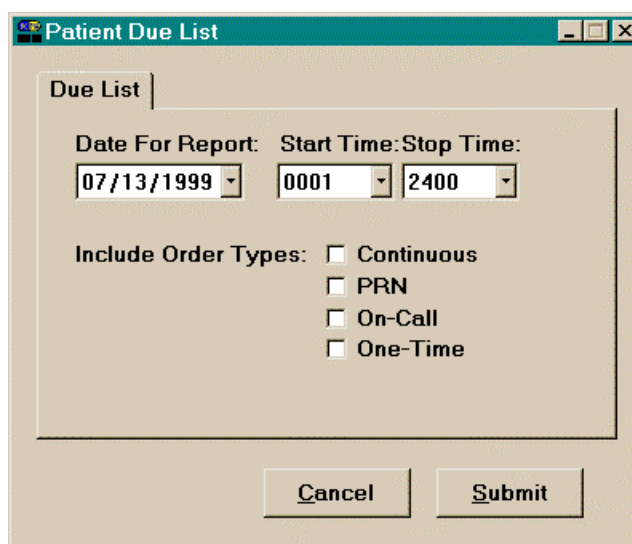
1.3.1.2 Reports Option

Selecting the Reports menu bar option displays a drop-down menu that allows the user to choose several patient-specific reports.


 Each of the reports is generated using similar processes. In each report request screen described below, the selection fields contain down-arrows that, when clicked on, open up drop-down menus for selecting dates and times. To request a report, click on the down-arrow. When the drop-down menu displays, move the cursor to the desired menu option, and press <Enter>. The selected option will appear in the field. Click on any desired check boxes, if presented. Press <Enter> or click on the Submit button to display the report.

 To move from field to field without using the mouse, press <Tab> until the cursor moves to the desired field or check box. Press <Enter>. When the drop-down menu displays, use the keyboard arrows to move the cursor to the desired menu option, and press <Enter>. The selected option will appear in the field. <Tab> to the Submit button, and press <Enter> to display the report.

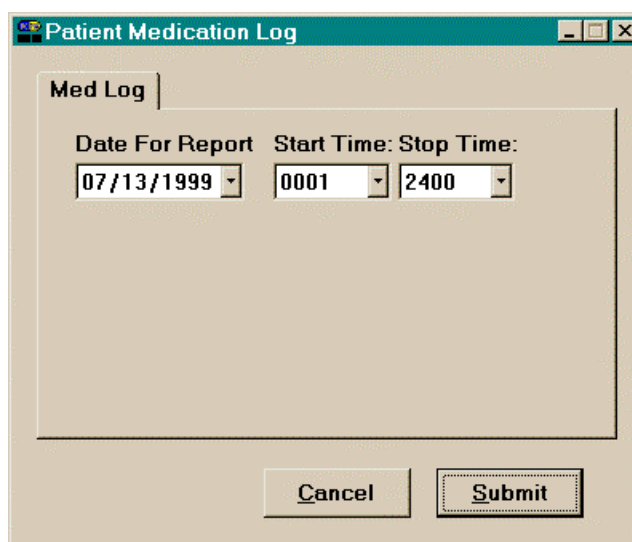
Due List. Selecting this option displays a selection screen, as shown in Exhibit 9, Patient Due List Report Request Screen, which allows the user to display a Due List for specified administration times.

EXHIBIT 9: PATIENT DUE LIST REPORT REQUEST SCREEN

The screenshot shows a window titled "Patient Due List". Inside, there is a tab labeled "Due List". Below the tab, there are two groups of fields. The first group is labeled "Date For Report:" and contains a dropdown menu showing "07/13/1999". The second group is labeled "Start Time: Stop Time:" and contains two dropdown menus showing "0001" and "2400". Below these fields, there is a section labeled "Include Order Types:" with four checkboxes: "Continuous", "PRN", "On-Call", and "One-Time". At the bottom of the window, there are two buttons: "Cancel" and "Submit".

 To enter a Date for Report without using the mouse, <Tab> to the field. Press <Tab> within the field to highlight the month, day, and year areas in sequence. Type the desired month, day, or year in the highlighted area.

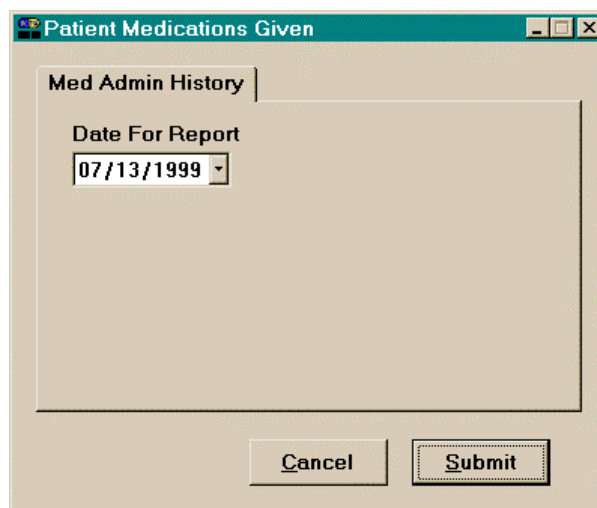
Medication Log. Selecting this option displays a selection screen, as shown in Exhibit 10, Med Log Report Request Screen, which allows the user to display the medication administration information for a specified date and time range.

EXHIBIT 10: MED LOG REPORT REQUEST SCREEN

The screenshot shows a window titled "Patient Medication Log". Inside, there is a tab labeled "Med Log". Below the tab, there are two groups of fields. The first group is labeled "Date For Report" and contains a dropdown menu showing "07/13/1999". The second group is labeled "Start Time: Stop Time:" and contains two dropdown menus showing "0001" and "2400". At the bottom of the window, there are two buttons: "Cancel" and "Submit".

Medication Admin History. Selecting this option displays a screen, as shown in Exhibit 11, Med Admin History (MAH) Request Screen, which allows the user to display a 7-day history of medications that were Given, Held, or Refused. The report runs from Sunday to Saturday. For example, if the user enters 07/13/1999 for the Date For Report, the report will be generated for the week of 07/11/1999 through 07/17/1999.

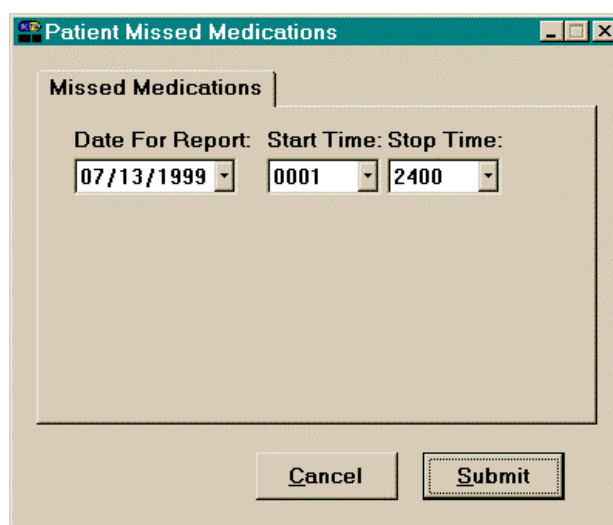
EXHIBIT 11: MED ADMIN HISTORY (MAH) REQUEST SCREEN



The screenshot shows a window titled "Patient Medications Given". Inside, there is a tab labeled "Med Admin History". Below the tab, there is a label "Date For Report" followed by a dropdown menu showing "07/13/1999". At the bottom of the window, there are two buttons: "Cancel" and "Submit".

Missed Medications. Selecting this option displays a screen, as shown in Exhibit 12, Missed Medications Report Request Screen, which allows the user to display doses not administered for a date and time range. If meds are placed on Hold via CPRS or IM v.5.0 they will appear on this report with Hold in parentheses.

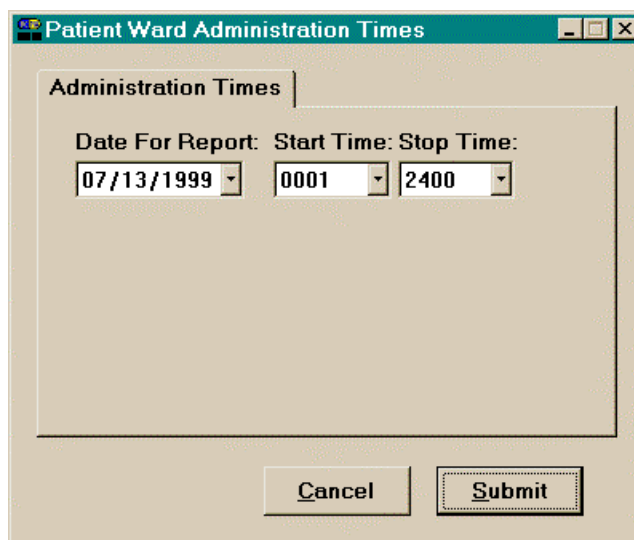
EXHIBIT 12: MISSED MEDICATIONS REPORT REQUEST SCREEN



The screenshot shows a window titled "Patient Missed Medications". Inside, there is a tab labeled "Missed Medications". Below the tab, there are three labels: "Date For Report:", "Start Time:", and "Stop Time:". Each label is followed by a dropdown menu. The "Date For Report:" dropdown shows "07/13/1999", the "Start Time:" dropdown shows "0001", and the "Stop Time:" dropdown shows "2400". At the bottom of the window, there are two buttons: "Cancel" and "Submit".

Administration Times. Selecting this option displays a screen, as shown in Exhibit 13, Administration Times Report Request Screen, which allows the user to generate a scheduled Administration Times report.

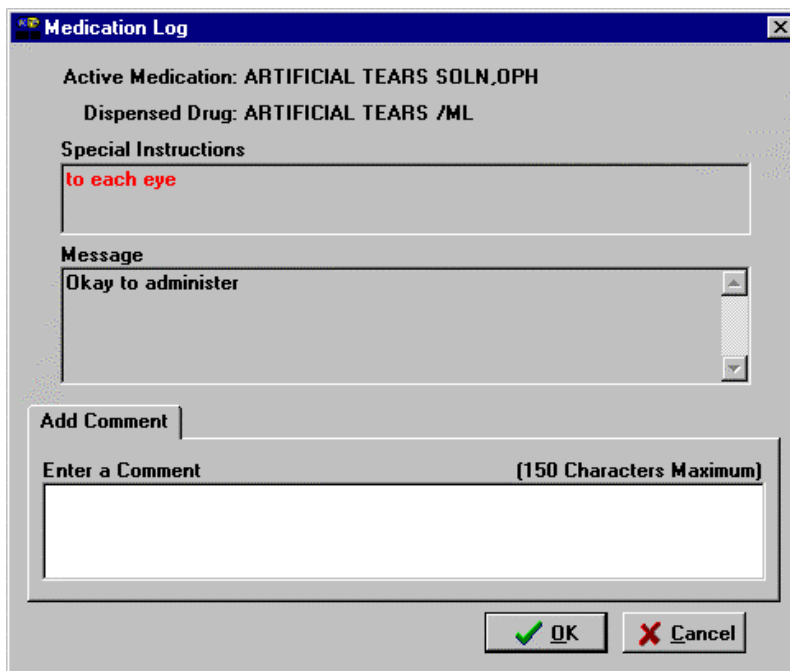
EXHIBIT 13: ADMINISTRATION TIMES REPORT REQUEST SCREEN



1.3.1.3 Due List Option

Selecting the Due List menu bar option allows the user to make comments, mark medications, and view information about a specific medication order.

Add Comment. Selecting this option allows the user to add a free-text comment about the selected medication in the text area of the screen, as shown in Exhibit 14, Add Comment Screen. This option is only available if the highlighted drug is marked as G for Given, H for Held, or R for Refused in the Status column of the medication display area of the VDL.

EXHIBIT 14: ADD COMMENT SCREEN

The screenshot shows a window titled "Medication Log" with a close button (X) in the top right corner. Inside the window, the following information is displayed:

- Active Medication: ARTIFICIAL TEARS SOLN,OPH
- Dispensed Drug: ARTIFICIAL TEARS /ML
- Special Instructions: to each eye
- Message: Okay to administer

Below the message field is a tab labeled "Add Comment". Under this tab is a text input field with the placeholder text "Enter a Comment" and a character limit "(150 Characters Maximum)". At the bottom right of the window are two buttons: "OK" with a green checkmark icon and "Cancel" with a red X icon.

Mark. Selecting this option allows the user to mark a drug entry as Refused or Held. If the medication is marked with a G (for Given) in the Status column, the Refused or Held menu option will not be available. Exhibit 15, Mark Medication Order Held, and Exhibit 16, Mark Medication Order Refused, show the screens used to mark orders. On the desired screen, highlight a reason in the Select a Reason field, and press <Enter> or click on the OK button. The status will appear on the VDL in the Status column.

EXHIBIT 15: MARK MEDICATION ORDER HELD

Medication Log

Active Medication: VERAPAMIL TAB
Dispensed Drug: VERAPAMIL 40MG TABS

Special Instructions

Message
Okay to administer

Medication Order Held

Select a Reason

Agitation	Blood Sugar Out Of Range
Apical Pulse Out Of Range	Constipation
Authorized Absence	Diarrhea
Blood Pressure Out Of Range	HEALED

OK Cancel

EXHIBIT 16: MARK MEDICATION ORDER REFUSED

Medication Log

Active Medication: ARTIFICIAL TEARS SOLN,OPH
Dispensed Drug: ARTIFICIAL TEARS /ML

Special Instructions
to each eye

Message
Okay to administer

Medication Order Refused

Select a Reason

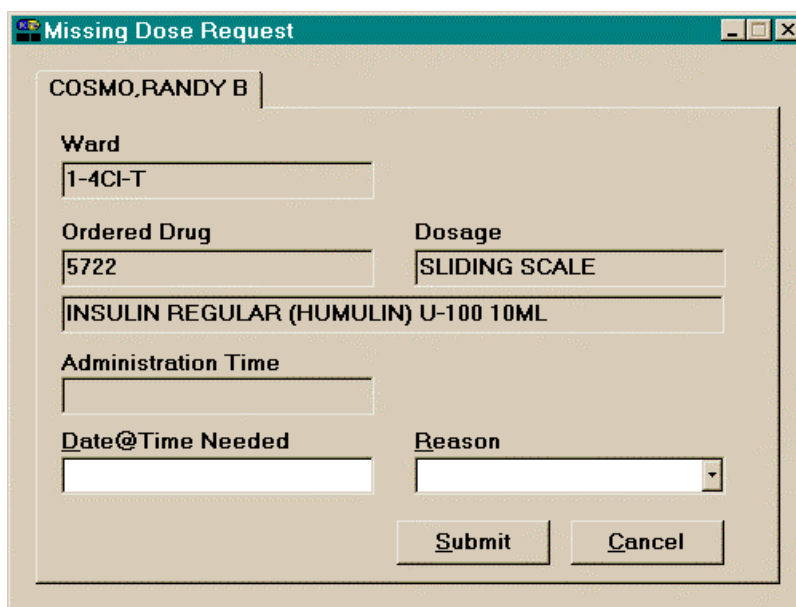
- Diarrhea
- Emesis
- Nausea
- Patient Request
- Patient Spit Out

OK Cancel

Med History. Select this option to display the administration history.

Missing Dose. Selecting this option displays the screen, as shown in Exhibit 17, Missing Dose Request Screen, which allows the user to submit a Missing Dose Request for the highlighted drug.

EXHIBIT 17: MISSING DOSE REQUEST SCREEN

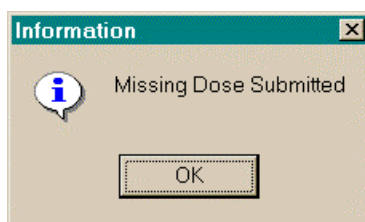


The screenshot shows a window titled "Missing Dose Request". At the top, the patient name "COSMO, RANDY B" is displayed. Below this, there are several input fields: "Ward" with the value "1-4CI-T", "Ordered Drug" with the value "5722", and "Dosage" with the value "SLIDING SCALE". A larger text field below these contains "INSULIN REGULAR (HUMULIN) U-100 10ML". There is an "Administration Time" field which is currently empty. Below that, there are two fields: "Date@Time Needed" and "Reason". The "Reason" field has a dropdown arrow. At the bottom right, there are two buttons: "Submit" and "Cancel".

To submit a Missing Dose Request for an order highlighted on the VDL, perform the following steps:

1. Enter a date and time in the Date @ Time Needed field. Press <Tab>. The cursor will move to the Reason field
2. Click on the arrow in the Reason field. Click on the desired reason. That reason appears in the field.
3. Click on the Submit button. When the request has been successfully submitted, the screen message, as shown in Exhibit 18, Missing Dose Submitted Message, will appear.

EXHIBIT 18: MISSING DOSE SUBMITTED MESSAGE



PRN Effectiveness. Select this option to enter PRN Effectiveness for the highlighted PRN drug. (If the drug is not a PRN, this option will not be available.) Exhibit 19, PRN Effectiveness Comments Screen, will display for comments.

EXHIBIT 19: PRN EFFECTIVENESS COMMENTS SCREEN

PRN Effectiveness Log

Active Medication: ACETAMINOPHEN/CODEINE 30MG TAB
 Dispensed Drug: ACETAMINOPHEN, CODEINE 30MG TAB UD

Special Instructions
 FOR PAIN

PRN List

Location	Division	Administration Time	Administered By	Reason Given
1-4AR-T A427-01	TOPEKA, KS	JUL 26, 1999@11:53:17	CARLSON, RUSSELL	Pain

Enter a PRN Effectiveness Comment (150 Characters Maximum)

OK Cancel

Drug IEN Code. Select this option to view the drug's Internal Entry Number (IEN).

Sort by. Select this option to sort the VDL drug display area by any of the available column headings.

Refresh. Select this option to update the VDL screen.

3.3.2 Administering Medications with the VDL

1.3.2.1 Reviewing Patient Demographics

Click on the patient demographics area of the VDL to display detailed patient information, as shown in Exhibit 20, Patient Inquiry Screen.

EXHIBIT 20: PATIENT INQUIRY SCREEN

Patient Inquiry

BECKF, JAMES D 543-11-2388 JUN 8, 1997

Address: 310 S WILCOX TAPERTHILL, GA 26371
 Temporary: NO TEMPORARY ADDRESS

County: HADCO (COG) From/To: NOT APPLICABLE
 Phone: 654-007-4864 Phone: NOT APPLICABLE
 Office: TRLO
 POS: POST-MORAN Clinic #: 623834677
 Relv: PROTESTANT, NO DENOMINATION Sex: MALE

Primary Eligibility: SC LESS THAN 30% (VERIFIED)
 Other Eligibilities:

Patient is Category A based on primary means test
 Veteran is eligible and provision of hospital care is mandatory
 Primary Means Test Last Applied 'NOV 4, 1996' (COMPLETED: NOV 4, 1996)
 Medication Copayment Exemption Status: NON-EXEMPT
 Patient's income is greater than Copy Income Threshold
 Test date: NOV 04, 1996

Primary Care Team: BLUE TEAM Team Phone: 350-4450
 Primary Care Practitioner: BARRY, DAVID

Status : ACTIVE INPATIENT-on WARD

Admitted : MAR 25, 1998@08:15:06 Transferred : MAR 29, 1998@12:07:21
 Ward : 1-44N-7 Room-No : A425-02
 Provider : BARRY, DAVID Specialty : GEN MED
 Attending : BARRY, DAVID

Admission LOS: 15 Absence days: 0 Pass Days: 0 ASIN days: 0


Currently enrolled in T-BLUE/DR. BARRY, T-SW BLUE TEAM,

Close

1.3.2.2 Selecting Administration Start and Stop Times

Click on the down arrows next to the Start Time and Stop Time fields. Drop-down menus display times in 1-hour increments, as shown in Exhibit 21, Start and Stop Time Selection Fields. Click on the appropriate time. That time will appear in the field. The VDL will display the medications to be administered between those start and stop times. The user may modify the medications displayed on the VDL by changing the start and stop times.

EXHIBIT 21: START AND STOP TIME SELECTION FIELDS

-  To select a Start Time without using the mouse, press <Alt> and **A**; to select a Stop Time, press <Alt> and **O**. The selected field will be highlighted. Press <Alt> and the down arrow on the keyboard. The drop-down menu will display. To move the time up, press the up arrow on the keyboard. To move the time down, press the down arrow on the keyboard. The displayed time in the field will be 1 hour before or after the previously displayed date. Repeat this process until the desired time displays in the field.

1.3.2.3 Selecting Order Schedule Types

In the Schedule Types area of the VDL, click on the check boxes to define the medications to display. The user may check multiple schedule types or a single schedule type. A second click to any check box will unmark it for the VDL display.

1.3.2.4 Viewing Allergy Information

Click on the Allergies button of the VDL. If the patient has an electronically documented allergy or adverse reaction information in the Allergy/Adverse Reaction Tracking Package V. 4.0, the information will display, as shown in Exhibit 22, Patient Allergy List Window. If the patient has no documented allergies or adverse reactions, the Allergies button will not be selectable.


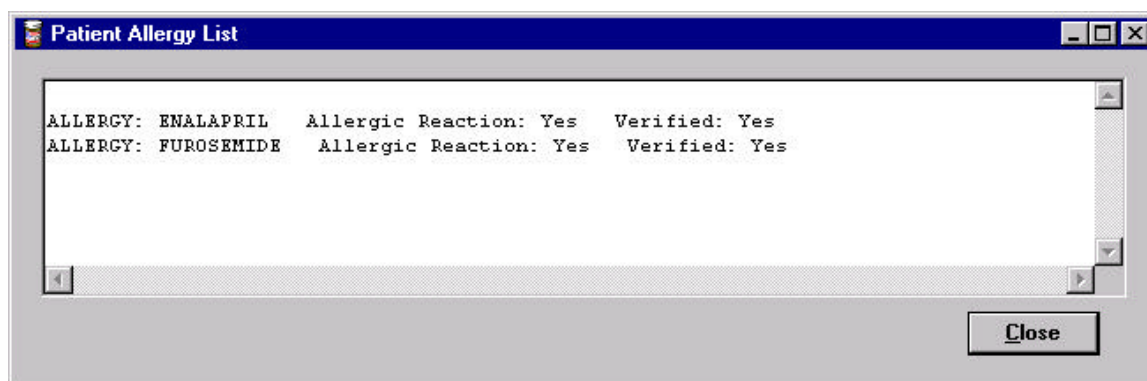
-  To check patient allergies without using the mouse, press <Tab> until the Allergies button on the VDL is selected. Press <Enter>. To close the window, <Tab> to the Close button, and press <Enter>.

EXHIBIT 22: PATIENT ALLERGY LIST WINDOW



1.3.2.5 Viewing and Sorting Medication Order Information

The medication display area of the VDL shows the medications scheduled for administration when at least one of the Schedule Type check boxes is selected. The information is organized in columns as follows:

- **Status.** This column indicates the status of medications scanned for the administration time that displays on the VDL for the selected Start and Stop Times. The field will be blank for any medication that has not had any action taken by the nurse during the selected times.
- **Self Med.** This column displays SM for self-medications or HSM for hospital supplied self-medications.
- **Type.** This column displays the medication Schedule Type as follows: C for Continuous, P for PRN, OC for On-Call, or O for One-Time.
- **Active Medication.** This column displays the Orderable Item, Dispensed Drug, and Special Instructions entered in Inpatient Medications V. 5.0.
- **Dosage.** This column displays the Dosage Ordered and the Schedule information entered in Inpatient Medications V. 5.0.
- **Route.** This column displays Med Route information entered in Inpatient Medications V. 5.0.
- **Admin Time.** This column displays Administration time information entered in the unit dose order in Inpatient Medications V. 5.0.
- **Last Given.** This column displays the last date/time the patient received this orderable item.

- ☞ The medication order information can be sorted by any of the column headings. Click on a column heading. The information will automatically sort according to entries in that column.
- ☞ To sort the information without using the mouse, press <Alt> and **D**. When the drop-down menu appears, use the keyboard arrow keys to move the cursor to the Sort By option, and Press <Enter>. Another menu will display listing the sort categories. Use the keyboard arrow keys to move the cursor to the desired sort category, and press <Enter>.

1.3.2.6 Viewing an Order as Entered in Inpatient Medications V. 5.0

To view an order as entered into Inpatient Medications V. 5.0, double-click on an individual order in the medication display area of the VDL. Complete order information will display, as shown in Exhibit 23, Order Display Screen.

- ☞ This feature can not be activated without using a mouse.

EXHIBIT 23: ORDER DISPLAY SCREEN

The screenshot shows a window titled "Order Display" with a blue title bar. Inside the window, the following information is displayed:

Orderable Item: IPRATROPIUM AEROSOL
Dosage Ordered: 2 PUFFS
Med Route: INHL
Schedule Type: FILL ON REQUEST
Schedule: Q6H
Admin Times: 0500-1100-1700-2300
Provider: NANDA, ANITA
Spec Inst:

Start: 04/09/1999 14:45
Stop: 04/23/1999 24:00
Self Med: NO

Dispense Drugs

Drug Name	Units	Inactive Date
IPRATROPIUM BROMIDE INHALER	1	

A "Close" button is located at the bottom right of the window.

1.3.2.7 Documenting the Medication Administration

The user can document an administration directly on the VDL. Place the cursor on an active medication. Click once on the right mouse button. A menu will appear on the VDL, as shown on Exhibit 24, VDL Right Mouse Button Screen.


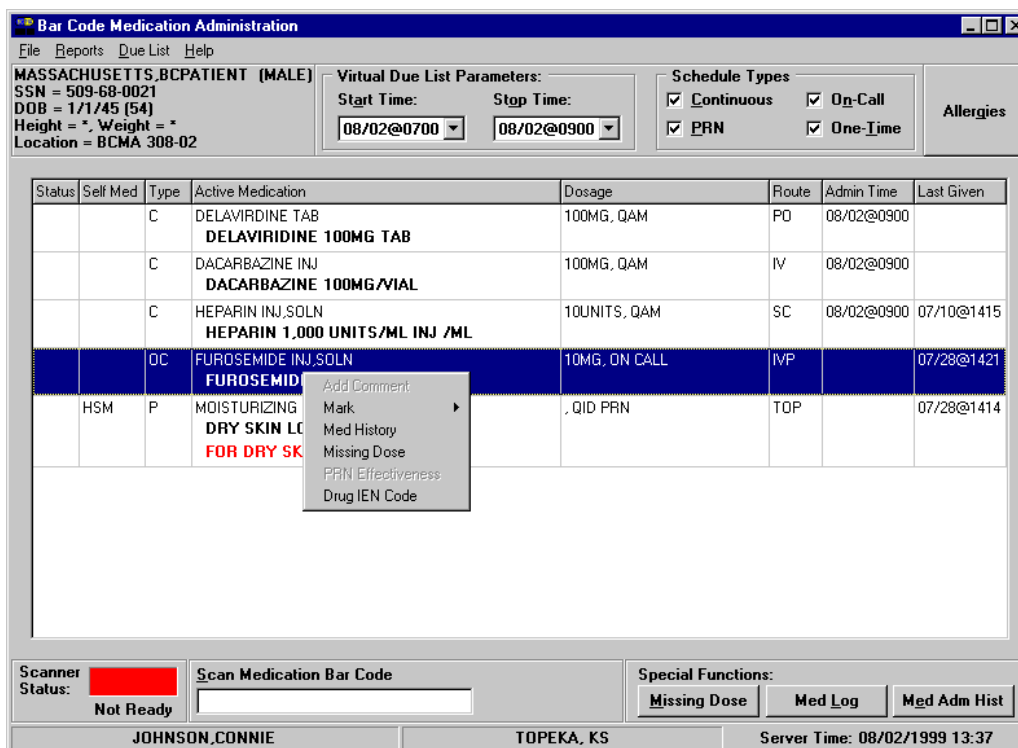
 The Right Mouse Button Screen is not available without using a mouse. However, the same list of options can be accessed using the Due List option on the menu bar. For general instruction on using the keyboard to access the menu options and to view sample screens, see Section 1.3.1.2, Reports Option, and Section 1.3.1.3, Due List Option.

EXHIBIT 24: VDL RIGHT MOUSE BUTTON SCREEN



Bar Code Medication Administration

File Reports Due List Help

MASSACHUSETTS BCPATIENT (MALE)
 SSN = 509-68-0021
 DOB = 1/1/45 (54)
 Height = *, Weight = *
 Location = BCMA 308-02

Virtual Due List Parameters:
 Start Time: 08/02@0700 Stop Time: 08/02@0900

Schedule Types:
☒ Continuous ☒ On-Call
☒ PRN ☒ One-Time

Allergies

Status	Self Med	Type	Active Medication	Dosage	Route	Admin Time	Last Given
		C	DELAVIDINE TAB DELAVIDINE 100MG TAB	100MG, QAM	PO	08/02@0900	
		C	DACARBAZINE INJ DACARBAZINE 100MG/VIAL	100MG, QAM	IV	08/02@0900	
		C	HEPARIN INJ.SOLN HEPARIN 1,000 UNITS/ML INJ /ML	10UNITS, QAM	SC	08/02@0900	07/10@1415
		OC	FUROSEMIDE INJ.SOLN FUROSEMIDE	10MG, ON CALL	IVP		07/28@1421
	HSM	P	MOISTURIZING DRY SKIN LC FOR DRY SK	, QID PRN	TOP		07/28@1414

Scanner Status: Not Ready

Scan Medication Bar Code


Special Functions:
 Missing Dose Med Log Med Adm Hist

JOHNSON, CONNIE TOPEKA, KS Server Time: 08/02/1999 13:37

Select the appropriate menu item to do any of the following:

- Add free-text comments about the selected medication. (This option is only available if the highlighted drug is marked as G for Given, H for Held, or R for refused in the Status column of the medication display area of the VDL.)
- Mark a drug entry as R for refused or H for Held. If the medication is marked with a G for Given in the Status column, the Refused or Held menu option will not be available.
- Display the administration history.
- Submit a Missing Dose Request for the highlighted drug.
- Enter PRN effectiveness for the highlighted PRN drug. (If the drug is not a PRN, this option will not be available.)
- View the drug's IEN.
- Sort the VDL drug display area by any of the available column headings.


- Refresh or update the VDL screen.

 Only those menu items that are available or applicable for the particular order will be selectable.

1.3.2.8 Scanning the Medication Bar Code


Check the Scanner Status field in the bottom left corner of the screen. If the system is ready to accept a scanned bar code, the box will display as GREEN. If the system is not ready, the box will display as RED. Place the cursor in the Scan Medication Bar Code field and click once to turn the Scanner Status field to GREEN. Scan the medication. The bar code number should appear in the Scan Medication Bar Code field.

When each medication is scanned, the application checks the Last Given time. If the Last Given time is less than 2 hours and the order has not had an administration logged against it, a warning message will display: NOTICE: <Orderable Item> was given <n> minutes ago. This message will display along with any other messages on the same form. At this point, the nurse can decide to administer the medication and mark it as Given or cancel the administration. A comment will be required if the medication is administered.

 To place the cursor in the field without using the mouse, press <Tab> until the cursor appears in the Scan Medication Bar Code field. Scan the medication. The bar code should appear in the Scan Medication Bar Code field

3.3.3 Using the Special Functions Buttons

The Special Functions Buttons offer the user another way to enter Missing Dose Requests and View the patient's Med Log and MAH.

 To access the Special Function Buttons without using the mouse, press <Tab> until the desired button is highlighted, and press <Enter>.

1.3.3.1 Submitting a Missing Dose Request

The Missing Dose button allows the user to submit a Missing Dose Request for a drug highlighted on the VDL. Click once on this Special Function button to display the Missing Dose Request window. See Section 1.3.1.3, Due List Option, for instructions on entering a Missing Dose Request.

1.3.3.2 Viewing the Medication Log

The Med Log button allows the user to view the information about medications that have been Given, Held, or Refused for this patient during the selected administration time. Click once on this Special Function Button to display the Med Log request screen. See Section 1.3.1.2, Reports Option, for instructions on requesting a patient's Med Log.

1.3.3.3 Viewing Medication Administration History

The Med Admin Hist button allows the user to request a Medication Administration History (MAH) report for a user-specified date range. The report is a 7-day report that runs from Sunday

to Saturday. Click once on the Med Admin Hist Special Function button to display the Med Admin History request screen. See Section 1.3.1.2, Reports Option, for instructions on requesting a patient's MAH.

4 GLOSSARY

This section contains acronyms and definitions for terms used in this document.

4.1 Acronyms

BCMA	Bar Code Med Admin
CHUI	Character-based User Interface
CPRS	Computerized Patient Record System
GUI	Graphical User Interface
HFS	Host File Server
HSM	Hospital supplied self-medications
IEN	Internal Entry Number
MAH	Medication Administration History
N/F	Non-formulary
PC	Personal computer
PRN	Pro Re Nata [Latin]
SM	Self-medications
TCP/IP	Transmission Control Protocol/Internet Protocol
VA	Department of Veterans Affairs
VAMC	Veterans Affairs Medical Center
VDL	Virtual Due List
VHA	Veterans Health Administration
VISN	Veterans Integrated Services Network
VISTA	Veterans Health Information Systems and Technology Architecture

4.2 Definitions

Audits	Tracking changes to records including old data, new data, and the name of the user who made the change.
BCMA	A VISTA software application that will validate medications against active orders prior to being administered to the patient.
CPRS	A VISTA software application that provides an integrated patient record system for use by clinicians, managers, quality assurance staff, and researchers.

Given	When a medication is administered to the patient, it is considered Given.
IEN Drug Code	The internal drug number (IEN) that is entered into Inpatient Medications V. 5.0
Not Given	A medication that is intentionally Not Given for a specified reason.
Omitted	A medication that was not given during the medication pass because it was unintentionally missed.
PRN	Latin abbreviation for <i>pro re nata</i> meaning “as needed.”
ScreenMan	VA FileMan's ScreenMan utility provides a screen-oriented interface for editing and displaying data.
SRS	Document which outlines the functional requirements for a project.
TCP/IP	A protocol developed by the Department of Defense for communications between computers. TCP/IP has become the standard for data transmission over networks, including the Internet.
VA FileMan	VISTA ’s database management system.
VDL	The Virtual Due List is a GUI application used by nurses when administering medications.

INDEX

- Allergies button on VDL, 21
- Bar Code, Scanning, 24
- BCMA
 - Clinical tool, 4
 - Desktop icon, 6
 - Efficiency of documentation, 4
 - Improved medication administration accuracy, 4
- Due List Functions
 - Med History, 17
 - PRN Effectiveness, 18
- Eastern Kansas Health Care System, Colmery-O'Neil Division, VISN 15, Heartland Veterans Health Network, 4
- Electronic Signature Code, 7
- Social Security Number, 9
- Facility parameters, 7
- GUI Options, 1, 2, 4, 5, 6, 11
 - Administering Medications with the VDL, 2, 18
 - Signing on to GUI, 6
- Information Resources Management (IRM), 5
- Sample screens, 8
- Inpatient Medications V. 5.0, 2, 21, 22
- Mouse, Using BCMA without a, 5, 6, 8, 11, 12, 20, 21, 22, 23, 24
- Nursing student sign-on, 7
- Patient demographics, 18
- PRN Effectiveness, 3, 18
- Reports
 - Due List, 2, 3, 9, 11, 12, 14, 23, 24
 - Med Log Report, 3, 12
 - Medication Administration History (MAH), 3, 13
 - Missed Medications, 3, 13
- Sample screens
 - Add Comments Screen, 14
 - Administration Times Report Request Screen, 14
 - BCMA Virtual Due List Screen, 9
 - Confirm Screen, 9
 - Mark Medication Order Held, 15
 - Mark Medication Order Refused, 15
 - Med Admin History (MAH) Request Screen, 13
 - Med Log Report Request Screen, 12
 - Missed Medications Report Request Screen, 13
 - Missing Dose Request Screen, 17
 - Missing Dose Submitted Message, 17
 - Order Display Screen, 22

- Patient Allergy List Window, 21
- Patient Due List Report Request Screen, 11
- Patient Inquiry Screen, 18
- Patient Lookup Window, 8
- PRN Effectiveness Comments Screen, 18
- Users Electronic Signature Screen, 7
- VDL Right Mouse Button Screen, 23
- VISTA** Sign-on Screen, 6
- Scanning Bar Codes, 24
- Schedule Types, 2, 20
- Screen fields
 - Access Code, 6
 - Scan Patient Wristband, 9
 - Verify Code, 6
- Security keys
 - PSB INSTRUCTOR, 7
 - PSB STUDENT, 7
- Special Functions Buttons
 - Med Admin Hist, 24
 - Med Log, 24
 - Missing Dose, 24
- Start and Stop Time Selection Fields, 20
- Using the Nursing Menu Options
 - Missed Medications, 3, 13
- VDL, 3, 5, 9, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24
- Virtual Due List (VDL), 2, 3, 4, 5, 9, 10, 11, 24
 - Menu Bar
 - Due List, 14
 - Due List Option, 14
 - File Options, 11
 - Reports Option, 11